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## BIRDS AS TRAVELERS

**B**IRDS are the greatest travelers in the world. Some other animals also make long journeys. The fur-bearing seals that pass the summer on the Pribilof Islands in Bering Sea go as far south as southern California in the winter. The caribou, or reindeer of the Barren Grounds which border the Arctic Ocean, travel southward in the fall to find food and shelter in the spruce and balsam forests of the interior of British America.

Shad and salmon leave the sea and swim often hundreds of miles up rivers to lay their eggs. Certain locusts, which are called "grass-hoppers," and some butterflies go long distances. But not one of these animals can compare with the bird as a traveler.

If we were studying the travels of European as well as of American birds we should learn some of the most interesting facts. For instance, we should find that in flying from Europe to Africa birds cross the Mediterranean Sea at a point where the water is so shallow that it is believed the two continents were formerly connected there. The land bridge which, it is thought, formerly guided the birds in their flight,

has disappeared, but the habit of crossing at this particular place still remains.

Frank M. Chapman, whose capitally written and illustrated book, "The Travels of Birds," is published by D. Appleton & Co., even says that birds have time-tables. When we consider, he maintains, the great distances some

birds travel and the dangers they encounter by the way, it is remarkable that they usually arrive on time. When, year after year, the Bobolink, the Baltimore Oriole, the midget Hummingbird, many Warblers and other birds arrive from journeys thousands of



The Advance Guard

Migrating male Red-winged Blackbirds. They are among the first birds to come in the Spring, the males arriving before the females

miles in length on exactly or nearly the same day, we ask how they can possibly be so prompt.

In order to answer this question we must know something about the birds' time-table. Anyone who has studied the birds about his home for many years can make a time-table giving the dates of the arrival and departure of all the migratory birds which visit him.

In this time-table we will notice that the early birds—those which come in March—are much less prompt than the later ones—those which come in May.

This is because the weather of March is so much more uncertain than that of May. In some years, near New York City, snow covers the ground and the ponds are frozen almost until April. In others, the snow melts and the ice disappears before the middle of March. But by May 1st, the weather is more settled. The first week in May of one year is much like the first week in May of another year.

So it follows that the exact time of the arrival of the birds is more or less dependent on the weather. But it is not the weather which induces them to start. What can the Baltimore Oriole in Central America know about the weather near New York City? Not a thing. He leaves Central America without regard to the weather there or any other place. But his journey may be delayed by bad weather or hastened by favorable weather. If, therefore, he finds the weather of one year much the same as that of another year, he is apt to reach the same place at about the same time year after year. Sometimes, encouraged by an unusually mild period, birds come so far ahead of their usual time that they are trapped by the sudden return of cold weather. Then, if they do not retreat, they may suffer for lack of food. Mr. Chapman says he has seen Geese on the coast of Texas migrating northward in large numbers, urged onward by a warm wave.

The next day, to his surprise, they all came flying back. But the day following a severe "norther" suddenly arrived. The Geese had evidently encountered this storm and been driven back by it.

The first birds to come in the spring

are, generally speaking, the last ones to leave in the fall. In early March we look for Robins, Grackles, and Red-winged Blackbirds, and there will be additions to the ranks of the Song Sparrows and Bluebirds that have passed the winter. These same birds will remain until November or even early December.

When the frost leaves the ground so that the Woodcock may probe for his favorite fare of earthworms, this great-eyed Snipe of the woods will appear; and he may stay with us until frost seals his hunting ground.

Almost as soon as the ponds, lakes, and rivers open, Ducks and Geese return and in the Fall many remain until they are actually "frozen out" by the ice which forces them to go further south.

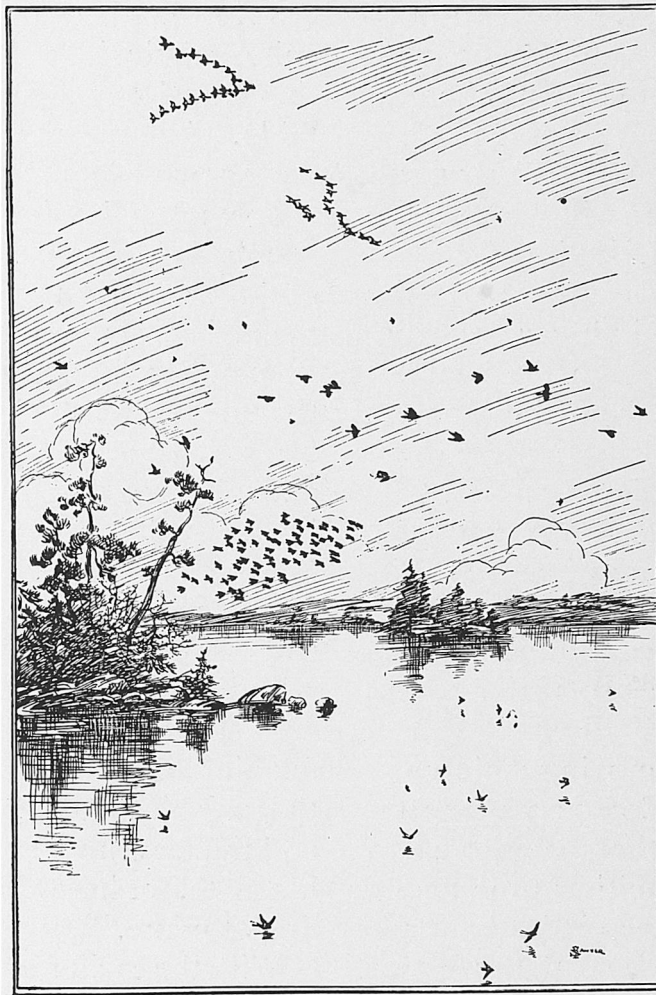
Now none of the birds I have mentioned makes very long journeys. Robins, Grackles, Red-wings and Woodcocks do not leave the United States, and the greater number of Ducks winter within our boundaries. In fact, all these birds may be found as far north as Virginia. Therefore, they are in the first rank of the vast army of birds which begins its northward march in the early spring. They may not start any sooner than the Bobolink in southern Brazil, but they have a much shorter journey to make and so get here first.

What a marvelous army it is! Four or five thousand miles separate the advance guard and rear guard. Between them are untold myriads of migrant Flycatchers, Warblers, Vireos, Thrushes, and other birds. Some are already under way, some are waiting the call to "fall in," but all in their proper season will take up the march and at

their due date reach their destination.

It is a joyous day when first we hear the martial music of the Grackles and Red-wings, and the cheery salute of the Song Sparrow. Not a bud has broken, not a blade of grass grown.

warm place gnats are floating in the sunlight, the Phœbe, earliest of Fly-catchers, will be there to devour them. In early April the chant of the Field Sparrow, the bright, ringing notes of the Vesper Sparrow, and the gurgling,



The Day Flyers

Geese, Ducks, Crows, Blackbirds, Swallows

The birds bring us the earliest news that spring is near.

Soon we shall hear the fying of the Meadowlark and the musical whistle of the Fox Sparrow; while those who know its haunts may hear the strange twilight song and see the sky dance of the Woodcock.

Late in the month, when in some

glassy call of the Cowbird will be added to the music of the feathered band. With them will be Chipping and White-throated Sparrows, Myrtle Warblers, Tree Swallows and Hermit Thrushes.

Thus far the army has advanced rank after rank in orderly array. All the birds in it have come from their winter quarters in the southern United States, but

about April 15th, the Barn Swallow appears. He is the first bird to reach us from tropical America. Like an aerial scout he dashes ahead of the slower columns. A little later he is joined by the Cliff and Bank Swallows. Then, if we are so fortunate as to have Purple Martins as tenants, we may expect to hear them chattering happily about the houses we have offered them as homes.

Some morning about April 25th, when we open our windows to the warm sun rays, the House Wren will greet us with his merry little trill. He is bobbing in and out of a bird house—perhaps the very one he nested in last year.

A Catbird sings from the heart of a lilac bush, while from the topmost branch of some tall tree the Brown Thrasher, in loud, ringing notes, tells us that he is home again.

That evening we may hear the twittering of Chimney Swifts just back from Central America, and see their bow-and-arrow-like forms sailing overhead.

The army now is moving rapidly and with closed ranks. Company after company hurries by; others stop to camp with us. It is an exciting time for us on the lookout. Sharp indeed are the eyes and keen the ears that see and hear all that is to be seen and heard. Between May 7th and 12th, when the migration is at its height, as many as one hundred and forty different kinds of birds have been seen by one person on one day.

The first days of May will bring the Rosebreasted Grosbeak, Baltimore Oriole, and Scarlet Tanager, all famous colorbearers. Then we may look for the great Warbler cohorts. These active little wood-sprites are the most

beautiful and the most numerous of any of the members of the great feathered army. Over thirty different kinds and an incalculable number of individuals will march by us.

The greater number spend the winter in the Tropics and the summer in northern New England and Canada. But in spite of their size and the great distance they travel they closely follow the timetable. Generally it will tell us within a day or two when to expect them.

From the beginning, if we have watched closely, we have noticed several things. First, we have found that the male birds come before the female. Remember that all the Red-wings in the early March flocks had red shoulder marks; that the Grackles were all large and glossy; that the Cowbirds had brownish heads and shining bodies. When the male and female are alike in color and cannot therefore be distinguished, remember how often our attention has been drawn to a newly arrived bird by its song. Since the female rarely sings, we may safely say that any bird we hear singing is a male; and thus, even when he is colored like his mate, we know that the male is the first to come.

With the earlier birds the female does not come until a week or ten days after the male. The male Red-wing, for example, returns to the marsh in which he and his mate lived the year before and calls his kong-quer-ree many times before she hears him and comes to choose a nesting place.

Then we will also see that while many birds march on to more northern homes others break ranks and make their homes with us. These the ornithologist calls "Summer Residents,"

while those that pass onward he calls "Transient Visitants."

By June 1st, the invading hosts have taken possession of the country. Some have settled in the north; but from the Gulf of Mexico to the shores of the Arctic Ocean, no place is without some members of the great army.

Where, in the winter, all was silent, we now hear the sweet voices of many birds. How peaceful they seem as they build their nests and rear their young!

But in truth they are valiant fighters; for this bird army has come to protect us from our insect enemies. All summer long they will carry on constant warfare against the caterpillars, cutworms, weevils, and other harmful insects, which, if they were not preyed

on by birds, would destroy our crops.

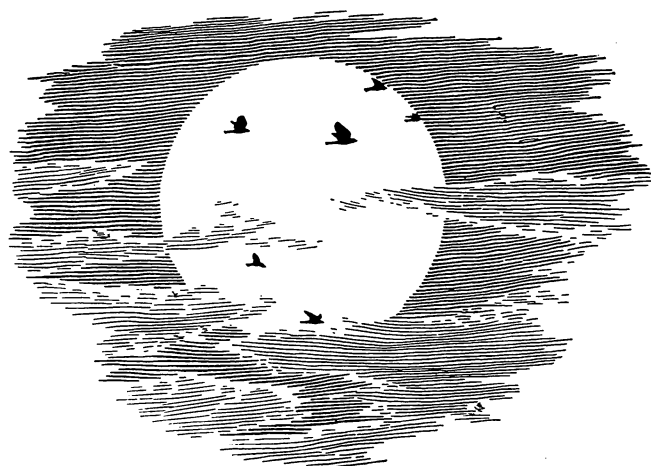
No sooner has the invasion ended than preparations for the retreat to winter quarters begin. In early June the Grackles and Robins start to drill their families for the great journey by daily trips to and from the roosting places. In July the young Swallows are given their lessons; and late in that month the Bobolink actually begins his southern migration. By August 20th, the retreat is well under way and from that time until September 30th, our woods are again thronged with traveling Warblers, Vireos, Flycatchers, and other birds. Most of them have changed

the bright uniform of spring for a duller coat in which we may find it difficult to recognize them.

In October they will be followed by the Juncos and Tree Sparrows; and in November, if food is scarce at the north, we may hope to see Crossbills, Redpolls, and even Pine Grosbeaks. All these late arrivals will stay with us until spring. By the ornithologist they are classed as "Winter Visitants,"

Birds like the Golden Plover and

Turnstone, that have to cross two thousand or more miles of ocean and are not believed to alight upon the water, cannot, of course, rest by the way. But the Warblers and other small birds that migrate chiefly over land evidently rest for several days after making an all-night flight.



The Birds in the Moon

During the season when birds are traveling and the moon is full, or nearly so, with the aid of a small telescope the night flyers may often be seen crossing the face of the moon

While they are waiting they may be passed by other birds of their own kind, and while these birds are resting somewhere on ahead they may in turn fly on ahead of them. An individual bird may therefore fly four or five hundred miles in one flight, but because of these rests between flights the species to which it belongs does not make anything like this rate of speed.

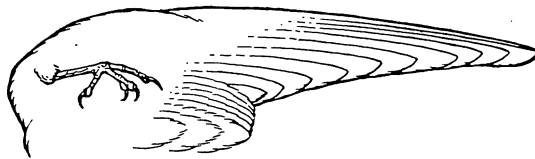
Professor Cooke's studies for the Biological Survey at Washington have told us more about the speed at which the bird army advances than we knew before. Thus he has found that for the first month of their northward journey,

Robins make an average advance of only thirteen miles a day. The next ten days they go forward at double this pace. Then, as the season becomes rapidly warmer, the rate rises to fifty, and soon to seventy miles a day. This increase in speed does not mean that the Robin flies faster but that its rests are shorter.

The same authority tells us that when traveling from the Gulf of Mexico to Minnesota, Blackpoll Warblers average only thirty to thirty-five miles a day, but before they reach Alaska they have raised this rate to two hundred

miles a day. So while the journey of one thousand miles from the Gulf of Mexico to Minnesota takes thirty days, the two thousand five hundred miles from Minnesota to Alaska is made in half that time.

From this glance at the birds' timetable, we have learned that nearly every month in the year has its bird travelers. This is one of the reasons why the study of birds is so interesting. There is always something happening in the birds' world. Someone is coming or someone is going. We are continually greeting old friends or making new ones.



The Swallow's Engine

The long wing and small foot of a Swallow, a bird that travels and feeds in the air